REMARKS/ARGUMENTS

In the Office action dated April 29, 2005, the Examiner objected to Applicants' claim language as not including the phrase "...comprising the steps of...." The claims have been so amended, and the objection should be withdrawn.

The Examiner rejected claims1-10 under 35 U.S. C. § 102(b) as being anticipated by U. S. Patent No. 5,287,194 to Lobiondo, which patent was cited and distinguished by Applicants in the Background portion of the Specification.

In the Specification, pages 4 and 5 are amende to correct typographical errors

In the Claims, claims 1 - 5 and 7-10 are amended; claim 6 is cancelled. New claims 11 and 12 are presented.

The Invention

The invention provides efficient network printing, and specifically provides for control and monitoring of a plurality of networked hardcopy output devices, such as copiers, printers, and multi-function peripherals, to print copies of a job submitted to one of the output devices, wherein the output device acts as a master to the other, slaved, output devices.

As stated in the Specification, on page 1, "The general concept of querying supporting devices for capabilities and making a decision based on the answers received is well known in the prior art." In all of the art cited by Applicants, including the applied reference, the control of multiple output devices lodges in a print server of other device which is part of the network control and distribution system. Applicants' invention uses an output device to accomplish control of other output devices, thus freeing the print or other server for other tasks.

The method of the invention is intended to work with a master output device which is connected to a communications network. A number of other output devices, also referred to herein as slave output devices, are connected to the network in a tandem configuration. A multi-copy print job is entered to a first network output device; The first network output device then queries other output devices on the network to determine each other output device's characteristics and pending print jobs to determine if a specific other output device is capable of performing a portion of the entered multi-copy print job; a portion of the multi-copy print job is transmitted from the first network output device to each selected, capable other output device; each other output device reports the completion of a single copy of the entered print job to the first network output device; and the first network output device determines, from the reporting by the other selected output devices, the number of copies of the entered print job to be printed by the first network output device and each other selected output device.

The Applied Art

As noted in the Specification, page 3, the applied reference distributes print jobs, which distribution is done by a print server, not by an output device. Specifically, Col 3, lines 37-50, recite:

> The information, which contains criteria for printing the job, can be sent to and temporarily stored in a buffer, RAM or other storage means located *within a print server* 60 or associated with the network and accessible by the print server 60. *A printshop scheduler 50, which may be in hardware or software, is located within the network either at the print server 60 or at various local workstations 30* within the network for analyzing the information relating to the job, the print job data itself and known information

about the current capabilities of all printing resources within the
network and scheduling the printing of print jobs at one or more of
the printers 10 to obtain an efficient use of all available resources.
(*emphasis added*)

Thus, the reference requires that the control of print jobs be accomplished by a print server or a

workstation. There is no teaching that the control mechanism be located in an output device, as is

required for a rejection under 35 U.S. C. § 102(b). Further, there is no suggestion that the

control mechanism be located in an output device, as might lead to a rejection under 35 U.S.C. §

103(a).

The Claims

Claim 1 has been amended to emphasize that the steps of the method of the

invention are accomplished solely in a first network output device, and that the print job is a

multi-copy print job, a portion of which is printed by the first network output device, and other

portions of which are printed by other, selected output devices. The Examiner, in rejecting the

claim, fails fully to recite the claimed elements, thus, the Examiner has a reference which teaches

what the Examiner places in the Office action, but not what Applicants have claimed. The

following presents the Examiner's claim in the left column and Applicants' as-filed claim in the

right column, with the Examiner's omitted word bolded in the right column.

Examiner's claim:	**Applicants claim:**
entering a print job at a first network device col. 3, lines 37-40; col. 6, lines 26-27	entering a print job at a first network **output** device
querying other devices to determine ... col. 2, lines 51-54; col. 4, lines 46-52 and col. 5, lines 51-54	querying other **output** device to determine...

| transmitting print jobs to each capable output device
Fig. 4; col. 2, lines 58-62; col. 5, lines 54 and 55 | transmitting a print job **from the first network output device** to each capable **other** output device |
| determining the number of copies to be printed by each device
col. 3, lines 48-50; col. 4, lines 54-68 | determining the number of copies **of the entered print job** to be printed by **the first network output device and** each **other output** device |

The Examiner's mis-characterization of Applicants' claims omits critical elements in Applicants' claims: the Examiner's "first network device" is a "first network output device"; the Examiner's "determining the number of copies to be printed by each device" is "determining the number of copies **of the entered print job** to be printed by **the first network output device and** each **other output** device." Clearly, the elements recited by the Examiner do not anticipate nor render obvious the elements claimed by Applicants.

Turning to the individual elements of the claim, "entering a multi-copy print job at a first network output device:" col. 3, lines 37-40 state that:

> The information, which contains criteria for printing the job, can be sent to and temporarily stored in a buffer, RAM or other storage means located within a print server 60 or associated with the network and accessible by the print server 60. A printshop scheduler 50, which may be in hardware or software, is located within the network either at the print server 60 or at various local workstations 30 within the network for analyzing the information relating to the job,...

Col. 6, lines 26-27 state: "Once this information is entered, the print job data can be input into the system and sent to a common print spooler 60."

Neither applied portion of '194 teach or suggest entering a multi-copy print job at a first network output device. Both portions recite that a print server or spooler is used, or a workstation, none

of which are equivalent to a network output device as that term is generally used by one of ordinary skill in the art.

The same applies to the querying, transmitting, reporting and determining steps of claim 1: the applied reference does not teach nor suggest that the first network output device controls printing by other output devices: it teaches that a print server or workstation controls printing by all output devices, as noted in the "Applied Art" portion of this response. Claim 1, particularly as amended, is allowable over the applied 102(b) art.

If it is the Examiner's contention that the first network output device functions as a print server, the Examiner has failed clearly to state that contention. If so, the rejection under 35 U.S. C. § 102(b) is inappropriate, and a rejection under 35 U.S.C. § 103(a) may have been more reasonable, however, the applied reference does not function as a 103 reference because it nowhere suggests that a output device would function as a print server, and is specific in requiring a print server or a workstation be used to distribute multi-copy print jobs. Thus, claim 1 would be allowable over a 35 U.S.C. § 103(a) rejection based on '194.

Claim 2 recites that "determining" is accomplished by the first network output device, and includes determining the number of copies of the entered multi-copy print job to be printed by the first network output device and each other selected output device by optimizing the number of copies to be printed by all output devices after all of the other output devices have reported to the first output device. The Examiner applied '194 Col. 4, line 51, col. 3, lines 48-50 and col. 4, lines 54-68, all of which apply to scheduler 50 controlling print jobs to printers 10. There is no mention, teaching or suggestion that a printer 10 controls the distribution of print jobs

to other printers. Claim 2 is allowable over the applied art.

Claim 3 recites that "said determining step further comprises optimizing the number of copies to be printed by all output devices after a predetermined amount of time has passed from said transmitting, and wherein the number of copies to be printed is allocated only among the first output device and such other output devices which have reported the completion of printing the first copy of the entered print job." The Examiner characterizes the claim as reading: "...optimizing the number of copies to be printed after a predetermined time wherein the number of copies is allocated only among the first device and those that reported." and applied '194, col. 3, lines 48-50 and Col. 4, lines 35-36. Col 3, lines 48-50 read:

> ...scheduling the printing of print jobs at one or more of the printers
> 10 to obtain an efficient use of all available resources.

while Col. 4, lines 35-39 read:

> For example, if a user requires 1000 sets of a document package by
> a certain time, the user would scan in the document or send the
> digital representation of the document into the network in a
> common printer spooling area.

As can best be determined by Applicants, the reference teaches that copies are sent to multiple output devices. The applied portion of the reference does not teach nor suggest that the print jobs are distributed to the first network output device and other output devices only after a predetermined amount of time has passed from the transmittal of the print job from the first network output device to the other output devices AND wherein the number of copies to be printed is allocated only among the first output device and such other output devices which have reported the completion of printing the first copy of the entered multi-copy print job. Claim 3 is

allowable over the applied art.

Amended claim 4 recites that

"...[where] the number of copies to be printed exceeds a predetermined number, and wherein the first network output device initiates printing on itself and each of the other selected output devices as other selected output devices report completion of their first copy of the entered print job, and wherein the first network output device makes a final determination of the number of copies which each selected output device is to print after all of the other selected output devices have reported.

The Examiner has applied '194, col. 4, line 17: Col. 4, lines 16-29 read:

The printshop scheduler 50 can schedule and distribute a large job, which may require the use of multiple printers 10 for a single job, among a plurality of local and remote printers 10 attached to the network. Standard processing and scheduling by humans cannot efficiently partition multiple jobs to take full advantage of the printer systems capacities. When multiple printers are present in the network, at one or more remote locations, it is extremely difficult for a human print manager to optimally schedule jobs. Although on a limited basis it may be possible, it is very time consuming and cannot provide real-time scheduling or even optimized scheduling when a large number of printers are to be managed.

col. 5, lines 3-4: col. 4, line 66 to col. 5, line 6 read:

Further, if a very urgent, important job is input into the system which has to be completed as soon as possible, irregardless of available printer resources, all available resources may be allocated to the job and any resources which become available during printing of the job may be assigned any portions of the job which have not yet been completed. This would fully utilize the total complex of available machines.

col. 3, lines 48-50: col. 3, lines 41-50 read:

A printshop scheduler 50, which may be in hardware or software, is located within the network either at the print server 60 or at various local workstations 30 within the network for analyzing the

information relating to the job, the print job data itself and known information about the current capabilities of all printing resources within the network and scheduling the printing of print jobs at one or more of the printers 10 to obtain an efficient use of all available resources.

col. 4, lines 51 and 56: col. 4, lines 50-59 read:

Then, printers of the type capable of producing the job are checked for availability. If the time constraint on a particular job is short, the scheduler 50 checks for the fastest of these printers 10 to complete the job. If it is determined that a single printer 10 cannot complete the job by the required completion time, the scheduler 50 can allocate portions of the job among a plurality of available printers 10. The specific allocation can vary.

and, col. 5, lines 51-54: col. 5, lines 51-54 read:

The scheduler 50 can determine availability of all remote locations and determine if the remote locations can complete the job by the desired completion time. If possible, the scheduler 50 allocates and prints the job at each location.

Again, the applied portions of the reference fail to teach or suggest the elements of the claim. As stated in the Specification, page 5, line 5, the method of the invention is referred to as "dynamic performance determination." Claim 4 incorporate this concept in that the number of copies assigned to each other selected output device is determined during printing, and after the first network output device and the other selected output devices have reported completion of their first-assigned print job. This allows the first network output device to determine which other selected output devices have been able to print their allocated portion of the multi-copy print job most efficiently, and to assign more copies of the multi-copy print job to the best choice(s) of other selected and first network output devices. There is no teaching or suggestion in '194 that a network output device makes these determinations. Claim 4 is allowable over the applied art.

Claim 5 recites:

> ...wherein said entering includes loading a print job into the first
> network output device and storing the print job in the first network
> output device.

The Examiner applies '194 col. 3, lines 37-41, which are reproduced above in the "Applied Art"

portion of this Response. The reference clearly states that the print job is stored in a print server

or memory associated with the network and accessible by the print server. Assume that an output

device has memory and is on the network. There is no teaching in '194 that such memory is

accessible by the print server as taught and required by '194. Thus, a critical element of the claim

is missing from the applied reference, and for that reason, claim is allowable over the applied 35

U.S. C. § 102(b) art.

Claim 7 includes the limitations of amended claim 1, and claim 5, and is allowable

for the reasons set forth in connection with those claims. Claim 7 has been amended also to

correct a typographical error in the last paragraph thereof.

Claims 8, 9 and 10 are allowable for the reasons set forth in connection with claims

2, 3 and 4, respectively.

In light of the foregoing amendment and remarks, the Examiner is respectfully

requested to reconsider the rejections and objections stated in the Office action, and pass the

application to allowance. If the Examiner has any questions regarding the amendment or remarks,

the Examiner is invited to contact the undersigned.

Request for Extension of time in Which to Respond

Applicants hereby request an extension of time under 37 C.F.R. § 1.136. A

PTOForm 2038 Credit Card authorization in the amount of $120.00 is enclosed to pay the

requisite extension fee. The Commissioner is hereby authorized to charge any additional fees

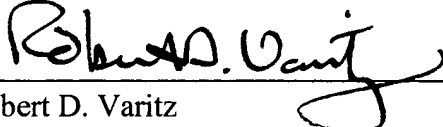which may be required, or credit any over-payment to Account No. 22-0258.

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